

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4941581

| | |
|---|--|
| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | ASSIGNMENT |
| CONVEYING PARTY DATA | |
| Name | Execution Date |
| COLIN FLORENDO | 06/30/2014 |
| CARSTEN THIEL | 07/16/2014 |
| IVAN SCHRETER | 07/08/2014 |
| MIHNEA ANDREI | 04/07/2014 |
| ANIL KUMAR GOEL | 07/11/2014 |
| RECEIVING PARTY DATA | |
| Name: | SAP SE |
| Street Address: | DIETMAR-HOPP-ALLEE 16 |
| City: | WALLDORF |
| State/Country: | GERMANY |
| Postal Code: | D-69190 |
| PROPERTY NUMBERS Total: 1 | |
| Property Type | Number |
| Application Number: | 15958663 |
| CORRESPONDENCE DATA | |
| Fax Number: | (503)595-5301 |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i> | |
| Phone: | 503-595-5300 |
| Email: | Ryan.Heck@klarquist.com |
| Correspondent Name: | RYAN A. HECK, PH.D., C/O KLARQUIST SPARKMAN, LLP |
| Address Line 1: | 121 SW SALMON STREET |
| Address Line 2: | SUITE 1600 |
| Address Line 4: | PORTLAND, OREGON 97204 |
| ATTORNEY DOCKET NUMBER: | 8880-92885-02 |
| NAME OF SUBMITTER: | RYAN A. HECK, PH.D. |
| SIGNATURE: | /Ryan A. Heck, Reg. No. 51,795/ |
| DATE SIGNED: | 05/01/2018 |
| Total Attachments: 5 | |

source=Assignment#page1.tif
source=Assignment#page2.tif
source=Assignment#page3.tif
source=Assignment#page4.tif
source=Assignment#page5.tif

ASSIGNMENT

I, Colin Florendo ("ASSIGNOR"), have invented subject matter ("INVENTION"), disclosed and/or claimed in the following patent application(s) ("APPLICATIONS"):

U.S. Patent Application entitled PAGED COLUMN DICTIONARY, having U.S. Patent Application No. 14/333,224, filed on July 16, 2014;

ASSIGNOR hereby authorizes and requests ASSIGNEE'S legal representatives of Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, OR 97204 USA, who are associated with customer number 106592, to insert the application number(s) and filing date(s) above when known;

SAP AG, Dietmar-Hopp-Allee 16 D-69190, Walldorf, Germany, a company organized under the laws of the country of Germany, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to and is desirous of acquiring the entire and exclusive rights, title, and interest in the INVENTION, the APPLICATIONS, and all other applications and patents derived therefrom, such as continuing applications, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES");

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns, and transfers to the ASSIGNEE, the entire and exclusive rights, title, and interest in the INVENTION, the APPLICATIONS, and APPLICATION DERIVATIVES, including foreign priority rights;

ASSIGNOR agrees to sign any documents required for the prosecution of the APPLICATIONS and APPLICATION DERIVATIVES, for litigation regarding letters patent derived therefrom, and for protecting and perfecting title to the APPLICATIONS and APPLICATION DERIVATIVES.

| | |
|---|-------------------------------------|
| <u>Colin Florendo</u> Inventor's Signature Colin Florendo | <u>June 30, 2014</u> Date Signed |
| <u>Blaine French</u> Witness Signature | <u>June 30, 2014</u> Date Signed |
| <u>Blaine French</u> Witness Name (print) | |

ASSIGNMENT

I, Carsten Thiel ("ASSIGNOR"), have invented subject matter ("INVENTION"), disclosed and/or claimed in the following patent application(s) ("APPLICATIONS"):

U.S. Patent Application entitled PAGED COLUMN DICTIONARY, having U.S. Patent Application No. 14/333,224, filed on July 16, 2014;

ASSIGNOR hereby authorizes and requests ASSIGNEE'S legal representatives of Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, OR 97204 USA, who are associated with customer number 106592, to insert the application number(s) and filing date(s) above when known;

SAP AG, Dietmar-Hopp-Allee 16 D-69190, Walldorf, Germany, a company organized under the laws of the country of Germany, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to and is desirous of acquiring the entire and exclusive rights, title, and interest in the INVENTION, the APPLICATIONS, and all other applications and patents derived therefrom, such as continuing applications, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES");

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns, and transfers to the ASSIGNEE, the entire and exclusive rights, title, and interest in the INVENTION, the APPLICATIONS, and APPLICATION DERIVATIVES, including foreign priority rights;

ASSIGNOR agrees to sign any documents required for the prosecution of the APPLICATIONS and APPLICATION DERIVATIVES, for litigation regarding letters patent derived therefrom, and for protecting and perfecting title to the APPLICATIONS and APPLICATION DERIVATIVES.

| | |
|----------------------|---------------------|
| <u>C. Thiel</u> | <u>16-July-2014</u> |
| Inventor's Signature | Date Signed |
| Carsten Thiel | |
| <u>G. Radestock</u> | <u>16-July-2014</u> |
| Witness Signature | Date Signed |
| Guenther Radestock | |
| Witness Name (print) | |

ASSIGNMENT

I, Ivan Schreter ("ASSIGNOR"), have invented subject matter ("INVENTION"), disclosed and/or claimed in the following patent application(s) ("APPLICATIONS"):


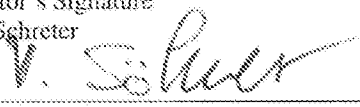
U.S. Patent Application entitled PAGED COLUMN DICTIONARY, having U.S. Patent Application No. 14/333,224, filed on July 16, 2014;

ASSIGNOR hereby authorizes and requests ASSIGNEE'S legal representatives of Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, OR 97204 USA, who are associated with customer number 106592, to insert the application number(s) and filing date(s) above when known;

SAP AG, Dietmar-Hopp-Allee 16 D-69190, Walldorf, Germany, a company organized under the laws of the country of Germany, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to and is desirous of acquiring the entire and exclusive rights, title, and interest in the INVENTION, the APPLICATIONS, and all other applications and patents derived therefrom, such as continuing applications, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES");

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns, and transfers to the ASSIGNEE, the entire and exclusive rights, title, and interest in the INVENTION, the APPLICATIONS, and APPLICATION DERIVATIVES, including foreign priority rights:

ASSIGNOR agrees to sign any documents required for the prosecution of the APPLICATIONS and APPLICATION DERIVATIVES, for litigation regarding letters patent derived therefrom, and for protecting and perfecting title to the APPLICATIONS and APPLICATION DERIVATIVES.

| | |
|---|-------------|
|  | 07/08/2014 |
| Inventor's Signature Ivan Schreter | Date Signed |
|  | 07/08/2014 |
| Witness Signature | Date Signed |
| VOLKMAR SÖHNER | |
| Witness Name (print) | |

ASSIGNMENT

I, Mihnea Andrei ("ASSIGNOR"), have invented subject matter ("INVENTION"), disclosed and/or claimed in the following patent application(s) ("APPLICATIONS"):

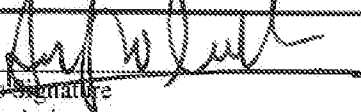
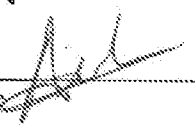
U.S. Patent Application entitled PAGED COLUMN DICTIONARY, having U.S. Patent Application No. 14/333,224, filed on July 16, 2014:

ASSIGNOR hereby authorizes and requests ASSIGNEE'S legal representatives of Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, OR 97204 USA, who are associated with customer number 106592, to insert the application number(s) and filing date(s) above when known;

SAP AG, Dietmar-Hopp-Allee 16 D-69190, Walldorf, Germany, a company organized under the laws of the country of Germany, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to and is desirous of acquiring the entire and exclusive rights, title, and interest in the INVENTION, the APPLICATIONS, and all other applications and patents derived therefrom, such as continuing applications, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES");

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns, and transfers to the ASSIGNEE, the entire and exclusive rights, title, and interest in the INVENTION, the APPLICATIONS, and APPLICATION DERIVATIVES, including foreign priority rights;

ASSIGNOR agrees to sign any documents required for the prosecution of the APPLICATIONS and APPLICATION DERIVATIVES, for litigation regarding letters patent derived therefrom, and for protecting and perfecting title to the APPLICATIONS and APPLICATION DERIVATIVES.

| | |
|---|---------------|
|  | <u>4/7/14</u> |
| Inventor's Signature Mihnea Andrei | Date Signed |
|  | <u>4/7/14</u> |
| Witness Signature | Date Signed |
| <u>AUDRY VERONIQUE</u> | |
| Witness Name (print) | |

ASSIGNMENT

I, Anil Kumar Goel ("ASSIGNOR"), have invented subject matter ("INVENTION"), disclosed and/or claimed in the following patent application(s) ("APPLICATIONS"):

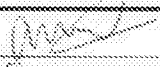

U.S. Patent Application entitled PAGED COLUMN DICTIONARY, having U.S. Patent Application No. 14/333,224, filed on July 16, 2014

ASSIGNOR hereby authorizes and requests ASSIGNEE'S legal representative, of Klarquist Sparkman, LLP, 121 S.W. Salmon Street, Suite 1600, Portland, OR 97204 USA, who are associated with customer number 106592, to insert the application number(s) and filing date(s) above when known;

SAP AG, Dietmar-Hopp-Allee 16 D-59199, Walldorf, Germany, a company organized under the laws of the country of Germany, on behalf of itself and its successors and assigns ("ASSIGNEE"), is entitled to and is desirous of acquiring the entire and exclusive rights, title, and interest in the INVENTION, the APPLICATIONS, and all other applications and patents derived therefrom, such as continuing applications, in and for the United States, its territories, and all foreign countries ("APPLICATION DERIVATIVES");

For good and valuable consideration, the receipt of which is hereby acknowledged by the ASSIGNOR, the ASSIGNOR hereby sells, assigns, and transfers to the ASSIGNEE, the entire and exclusive rights, title, and interest in the INVENTION, the APPLICATIONS, and APPLICATION DERIVATIVES, including foreign priority rights.

ASSIGNOR agrees to sign any documents required for the prosecution of the APPLICATIONS and APPLICATION DERIVATIVES, for litigation regarding letters patent derived therefrom, and for protecting and perfecting title to the APPLICATIONS and APPLICATION DERIVATIVES.

| | |
|--|-----------------------|
|  | <u>July 11 / 2014</u> |
| Inventor's Signature Anil Kumar Goel | Date Signed |
|  | <u>July 11 / 2014</u> |
| Witness Signature | Date Signed |
| <u>Sandi Albrecht</u> | |
| Witness Name (print) | |